Concatenation of Consecutive Binary Numbers (View)

Given an integer `n`, return *the **decimal value** of the binary string formed by concatenating the binary representations of* `1` *to* `n` *in order, **modulo*** $10^9 + 7$.

Example 1:

```
Input: n = 1

Output: 1

Explanation: "1" in binary corresponds to the decimal value 1.
```

Example 2:

```
Input: n = 3

Output: 27

Explanation: In binary, 1, 2, and 3 corresponds to "1", "10", and "11".

After concatenating them, we have "11011", which corresponds to the decimal value
27.
```

Example 3:

```
Input: n = 12

Output: 505379714

Explanation: The concatenation results in "110111001011101111000100110101011110 0".

The decimal value of that is 118505380540.

After modulo 10^9 + 7, the result is 505379714.
```

Constraints:

- $1 <= n <= 10^5$